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EFFECT OF INTENSIVE COMPARED WITH STANDARD BLOOD GLUCOSE CONTROL IN PATIENTS WITH TYPE 2 DIABETES MELLITUS IN DIFFERENT REGIONS OF THE WORLD: SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Poster Contributions
Hall C
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Background: Recent trials comparing intensive to standard blood glucose lowering in patients with type 2 diabetes mellitus (T2DM) have been neutral, with some reporting harm. The actual implementation of strategies within trials may differ across regions due to variation in care. We sought to evaluate whether outcomes were different in trials conducted in North America (NA) versus the rest of the world (ROW).

Methods: Databases were searched from their inception through December 2012. We calculated summary odds ratios (OR) and 95% confidence intervals (CI) with the random effects model.

Results: The analysis included 34,967 patients from 17 randomized controlled trials (7 in NA and 10 in ROW). For trials conducted in NA, intensive compared with standard glycemic control resulted in significantly higher cardiovascular (CVS) mortality (OR 1.41, 95% CI, 1.05-1.90) and all-cause mortality (1.21, 1.05-1.40) compared with trials conducted in ROW (CVS mortality 0.89, 0.79-1.00; P-interaction=0.007; all-cause mortality 0.93, 0.85-1.03; P-interaction=0.006). While individual macro/ micro vascular outcomes were not different, risk of severe hypoglycemia was significantly higher within NA trials (P-interaction=0.001).

Conclusion: Randomization to intensive glycemic control in T2DM patients increased CVS mortality, all-cause mortality, and severe hypoglycemia in North America compared with the rest of the world. Additional mechanistic studies are needed to understand these regional differences.